For Delaval Please.

8525 8D08

SEARCH REQUEST FORM

Scientific and Technical Information Cente

Requester's Full Name: Gamapathy Krishnan Examiner #: 79271 Date: 12/2/02

Art Unit: 1623 Phone Number 305-4837 Serial Number: 10/989,348

Mail Box and Bldg/Room Location: 8D08 (8B19) Results Format Preferred (circle): PAPER DISK E-MAIL

If mor than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method for producing cellulose sulfoacetate derivatives and products and mixtures thereof

Inventors (please provide full names): Gaelle Chauvellon; Luc Saulnier; Alain Buleon; Jean-Francois Thibault

Earliest Priority Filing Date:

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Search for a process for producing water soluble cellulose sulfoacetate. (claims 1 – 14).

Other limitations in claims 5-22.

and auther search.

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: Jan	NA Sequence (#)		STN	✓
Searcher Phone #: 4498	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up: 12/7/02	Bibliographic	✓	Dr.Link	
Date Completed: 12/7/02	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	Fulltext		Sequence Systems	
Clerical Prep Time: 20	Patent Family		WWW/Internet	
Online Time: 145	Other		Other (specify)	

PTO-1590 (8-01)

=> fil reg
FILE 'REGISTRY' ENTERED AT 13:12:26 ON 07 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 6 DEC 2002 HIGHEST RN 475385-56-9
DICTIONARY FILE UPDATES: 6 DEC 2002 HIGHEST RN 475385-56-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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L89 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **474043-90-8** REGISTRY
CN Cellulose, sulfoacetate, barium salt (9CI) (CA INDEX NAME)
MF C2 H4 O5 S . x Ba . x Unspecified
PCT Manual registration, Polyother, Polyother only
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S

$HO_2C-CH_2-SO_3H$

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:339217

L89 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **474043-89-5** REGISTRY
CN Cellulose, sulfoacetate, potassium salt (9CI) (CA INDEX NAME)
MF C2 H4 O5 S . x K . x Unspecified
PCT Manual registration, Polyother, Polyother only
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S

$HO_2C-CH_2-SO_3H$

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:339217

L89 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **286942-63-0** REGISTRY
CN Cellulose, acetate hydrogen sulfate, potassium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Potassium cellulose acetate sulfate
MF C2 H4 O2 . x H2 O4 S . x K . x Unspecified
PCT Manual registration, Polyother, Polyother only
SR CA
LC STN Files: CA, CAPLUS

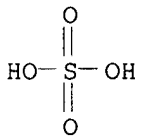
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

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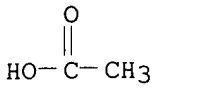
CMF C2 H4 O2



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 133:137001

L89 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **177931-56-5** REGISTRY
CN Cellulose, acetate hydrogen sulfate, ammonium salt (9CI) (CA INDEX NAME)
MF C2 H4 O2 . x H3 N . x H2 O4 S . x Unspecified
SR CA
LC STN Files: CA, CAPLUS

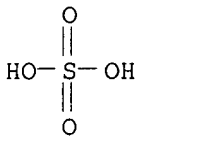
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

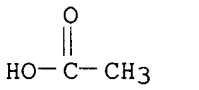
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 125:36155

L89 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **145268-50-4** REGISTRY
CN Cellulose, sulfoacetate, sodium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Sodium cellulose sulfoacetate
MF C2 H4 O5 S . x Na . x Unspecified
PCT Manual registration

SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S

$HO_2C-CH_2-SO_3H$

3 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:339217

REFERENCE 2: 134:223618

REFERENCE 3: 118:41009

L89 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **51910-28-2** REGISTRY
CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Cellulose acetate sulfate sodium salt
CN Sodium cellulose acetate sulfate
DR 56508-78-2
MF C2 H4 O2 . x H2 O4 S . x Na . x Unspecified
PCT Manual registration, Polyother, Polyother only
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

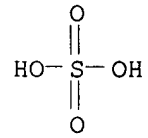
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

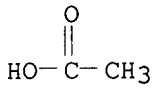
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



28 REFERENCES IN FILE CA (1962 TO DATE)
28 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:7671

REFERENCE 2: 133:137001

REFERENCE 3: 130:257341

REFERENCE 4: 130:158399

REFERENCE 5: 127:283391

REFERENCE 6: 125:36155

REFERENCE 7: 122:299105

REFERENCE 8: 121:296194

REFERENCE 9: 121:212996

REFERENCE 10: 121:164037

L89 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **9032-44-4** REGISTRY
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Sulfocel
MF C2 H4 O2 . x H2 O4 S . x Unspecified
PCT Manual registration
LC STN Files: CA, CAPLUS, USPATFULL

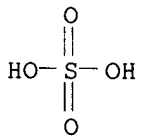
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

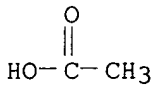
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



17 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
17 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:339317

REFERENCE 2: 137:339217

REFERENCE 3: 133:137001

REFERENCE 4: 124:319956

REFERENCE 5: 123:173199

REFERENCE 6: 120:273335

REFERENCE 7: 117:92506

REFERENCE 8: 113:80801

REFERENCE 9: 113:80742

REFERENCE 10: 110:121016

L89 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **9004-34-6** REGISTRY
CN Cellulose (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN .alpha.-Cellulose
CN .beta.-Amylose
CN 3mAQUACEL
CN 402-2B
CN Alicell LV
CN Alpha Cel PB 25
CN Alphafloc
CN Arbocel
CN Arbocel B 00
CN Arbocel B 600
CN Arbocel B 600/30
CN Arbocel B 800
CN Arbocel B 820C
CN Arbocel BC 1000
CN Arbocel BC 200
CN Arbocel BE 600
CN Arbocel BE 600/10
CN Arbocel BE 600/20
CN Arbocel BE 600/30
CN Arbocel BEM
CN Arbocel BFC 200
CN Arbocel BWW 40

CN Arbocel DC 1000
CN Arbocel FD 00
CN Arbocel FD 600/30
CN Arbocel FIC 200
CN Arbocel FT 40
CN Arbocel FT 600/30H
CN Arbocel G 350
CN Arbocel TF 30HG
CN Arbocel TP 40
CN Avicel
CN Avicel 101
CN Avicel 102
CN Avicel 2330
CN Avicel 2331
CN Avicel 955
CN Avicel CL 611
CN Avicel E 200
CN Avicel F 20
CN Avicel FD 100
CN Avicel FD 101
CN Avicel FD-F 20
CN Avicel M 06
CN Avicel M 15
CN Avicel M 25
CN Avicel NT 020
CN Avicel PH 101
CN Avicel PH 102
CN Avicel PH 105
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 12656-52-9, 9012-19-5, 9037-50-7, 9076-30-6, 58968-67-5, 99331-82-5, 67016-75-5, 67016-76-6, 51395-76-7, 61991-21-7, 61991-22-8, 68073-05-2, 70225-79-5, 74623-16-8, 75398-83-3, 77907-70-1, 84503-75-3, 89468-66-6, 39394-43-9
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyother, Polyother only
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
59883 REFERENCES IN FILE CA (1962 TO DATE)
7155 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
59935 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:362153

REFERENCE 2: 137:362117

REFERENCE 3: 137:362097

REFERENCE 4: 137:360107

REFERENCE 5: 137:358272

REFERENCE 6: 137:358231

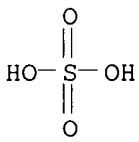
REFERENCE 7: 137:358228

REFERENCE 8: 137:358223

REFERENCE 9: 137:358216

REFERENCE 10: 137:358192

L89 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **7664-93-9** REGISTRY
CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN BOV
CN Brimstone acid
CN Contact acid
CN Dihydrogen sulfate
CN Dipping acid
CN Oil of vitriol
CN Sulphuric acid
CN Vitriol brown oil
FS 3D CONCORD
DR 127529-01-5, 119540-51-1, 140623-70-7
MF H2 O4 S
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

74164 REFERENCES IN FILE CA (1962 TO DATE)
3849 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
74238 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:362002

REFERENCE 2: 137:361560

REFERENCE 3: 137:361478

REFERENCE 4: 137:361395

REFERENCE 5: 137:361374

REFERENCE 6: 137:360909

REFERENCE 7: 137:360272

REFERENCE 8: 137:360225

REFERENCE 9: 137:359474

REFERENCE 10: 137:359472

L89 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **108-24-7** REGISTRY
CN Acetic acid, anhydride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetic anhydride (8CI)
OTHER NAMES:
CN Acetic oxide
CN Acetyl acetate
CN Acetyl anhydride
CN Acetyl ether
CN Acetyl oxide
CN Ethanoic anhydride
FS 3D CONCORD
MF C4 H6 O3
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM*, DIPPR*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Ac—O—Ac

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12564 REFERENCES IN FILE CA (1962 TO DATE)
324 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12588 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:361976

REFERENCE 2: 137:360314

REFERENCE 3: 137:360311

REFERENCE 4: 137:360228

REFERENCE 5: 137:354675

REFERENCE 6: 137:354396

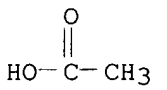
REFERENCE 7: 137:353936

REFERENCE 8: 137:353815

REFERENCE 9: 137:353779

REFERENCE 10: 137:353193

L89 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2002 ACS
RN **64-19-7** REGISTRY
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN acetic acid
CN Aci-Jel
CN Ethanoic acid
CN Ethanoic acid monomer
CN Ethylic acid
CN Glacial acetic acid
CN Methanecarboxylic acid
CN Vinegar acid
FS 3D CONCORD
DR 77671-22-8
MF C2 H4 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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3501 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
68366 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:362147

REFERENCE 2: 137:362002

REFERENCE 3: 137:361395

REFERENCE 4: 137:361387

REFERENCE 5: 137:360354

REFERENCE 6: 137:360271

REFERENCE 7: 137:359860

REFERENCE 8: 137:359406

REFERENCE 9: 137:358242

REFERENCE 10: 137:358179

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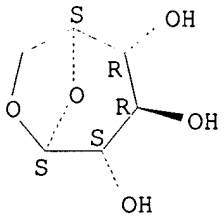
L91 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 181488-63-1 REGISTRY
CN **.beta.-L-Glucopyranose, 1,6-anhydro- (9CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C6 H10 O5**
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

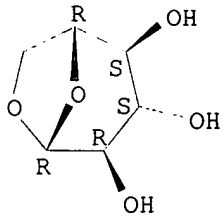
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 128:205045

REFERENCE 2: 125:247436

L91 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 107795-40-4 REGISTRY
CN **.beta.-Glucopyranose, 1,6-anhydro- (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **.beta.-DL-Glucopyranose, 1,6-anhydro-**
CN **6,8-Dioxabicyclo[3.2.1]octane, .beta.-DL-glucopyranose deriv.**
FS STEREOSEARCH
MF **C6 H10 O5**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMINFORMRX
(*File contains numerically searchable property data)

Relative stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

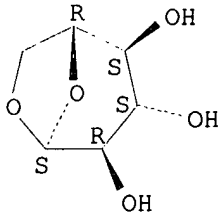
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:266870

REFERENCE 2: 107:7464

L91 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 13051-71-3 REGISTRY
CN **Glucopyranose, 1,6-anhydro-, .alpha.-D- (8CI)** (CA INDEX NAME)
FS STEREOSEARCH
MF **C6 H10 O5**
LC STN Files: BEILSTEIN*, CAOLD, CHEMINFORMRX, GMELIN*, SPECINFO
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L91 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 1310-73-2 REGISTRY
CN Sodium hydroxide (Na(OH)) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Sodium hydroxide (8CI)**
OTHER NAMES:
CN Aetznatron
CN Ascarite
CN Caustic soda
CN Collo-Grillrein
CN Collo-Tapetta
CN GR
CN GR (alkali reagent)
CN Soda, caustic
CN White caustic
DR 8012-01-9
MF H Na O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Na—OH

60610 REFERENCES IN FILE CA (1962 TO DATE)
392 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
60682 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:361798

REFERENCE 2: 137:360572

REFERENCE 3: 137:359480

REFERENCE 4: 137:359437

REFERENCE 5: 137:359331

REFERENCE 6: 137:358155

REFERENCE 7: 137:358067

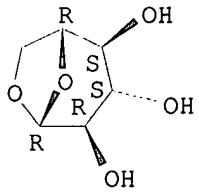
REFERENCE 8: 137:358033

REFERENCE 9: 137:357908

REFERENCE 10: 137:357825

L91 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 498-07-7 REGISTRY
CN **.beta.-D-Glucopyranose, 1,6-anhydro- (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **6,8-Dioxabicyclo[3.2.1]octane, .beta.-D-glucopyranose deriv.**
CN **D-Glucose, 1,6-anhydro- (6CI)**
CN **Levoglucosan (8CI)**
OTHER NAMES:
CN **1,6-Anhydro-.beta.-D-glucopyranose**
CN **1,6-Anhydro-.beta.-D-glucose**
CN **1,6-Anhydro-D-glucose**
CN **1,6-Anhydroglucose**
CN **Leucoglucosan**
FS STEREOSEARCH
DR 112602-30-9
MF **C6 H10 O5**
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DETHERM*, GMELIN*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, SPECINFO, SYNTHLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

747 REFERENCES IN FILE CA (1962 TO DATE)
24 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
749 REFERENCES IN FILE CAPLUS (1962 TO DATE)
17 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:283339

REFERENCE 2: 137:279395

REFERENCE 3: 137:251794

REFERENCE 4: 137:201508

REFERENCE 5: 137:187209

REFERENCE 6: 137:142896

REFERENCE 7: 137:128796

REFERENCE 8: 137:113694

REFERENCE 9: 137:110673

REFERENCE 10: 137:95392

=> d ide can tot l92

L92 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 72270-30-5 REGISTRY
CN Cellulose, acetate hydrogen sulfate (9CI) (CA INDEX NAME)
MF C2 H4 O2 . x H2 O4 S . x Unspecified
PCT Manual registration
LC STN Files: CA, CAPLUS

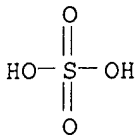
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

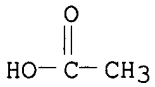
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 92:24539

L92 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 63310-04-3 REGISTRY
CN Cellulose, acetate hydrogen sulfate, calcium salt (9CI) (CA INDEX NAME)
MF C2 H4 O2 . x Ca . x H2 O4 S . x Unspecified
PCT Manual registration
LC STN Files: CA, CAPLUS

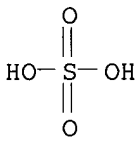
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

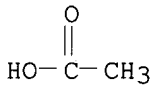
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 87:54844

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 13:19:03 ON 07 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 7 Dec 2002 VOL 137 ISS 24
FILE LAST UPDATED: 6 Dec 2002 (20021206/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot l100 hitstr

L100 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:849768 HCAPLUS
DN 137:339317
TI Composition containing **cellulose sulfoacetate** and surfactant
IN Fleury, Etienne; Harrison, Ian; Royer, Gaeelle; Doublier, Jean-Louis; **Saulnier, Luc**
PA Rhodia Chimie, Fr.; Institut National de la Recherche Agronomique
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C11D003-22
ICS C11D017-00; A61K007-48; A23L001-0534; D21H021-24; A61K047-38
CC 46-3 (Surface Active Agents and Detergents)
Section cross-reference(s): 19, 42, **43**, 51, 62, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002088288	A1	20021107	WO 2002-FR1429	20020425

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

FR 2824069 A1 20021031 FR 2001-5618 20010426

PRAI FR 2001-5618 A 20010426

AB Thermoreversible and thixotropic hydrogels of surfactants that dissolve rapidly in water contain **cellulose sulfoacetate** and/or at least one of its derivs. These hydrogels are useful in cosmetic industry, detergent industry, food additives, paper industry, agrochem. industry, pharmaceutical industry, inks, and drilling fluids.

ST **cellulose sulfoacetate** gelling agent surfactant; drilling fluid **cellulose sulfoacetate** surfactant hydrogel; ink **cellulose sulfoacetate** surfactant hydrogel; pharmaceutical **cellulose sulfoacetate** surfactant hydrogel; agrochem **cellulose sulfoacetate** surfactant hydrogel; paper industry **cellulose sulfoacetate** surfactant hydrogel; food **cellulose sulfoacetate** surfactant hydrogel; detergent **cellulose sulfoacetate** surfactant hydrogel; cosmetic **cellulose sulfoacetate** surfactant hydrogel

IT Surfactants
(anionic; thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)

IT Surfactants
(nonionic; thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)

IT Gelation agents
Hydrogels
Thixotropic materials
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)

IT Agrochemicals
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for agrochem. industry)

IT Cosmetics
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for cosmetics)

IT Detergents
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for detergents)

IT Drilling fluids
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for drilling fluids)

IT Drugs
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for drugs)

IT Food additives
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for food additives)

IT Inks
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for inks)
IT Paper
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water for paper industry)
IT **9032-44-4P, Cellulose acetate sulfate**
RL: COS (Cosmetic use); FFD (Food or feed use); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)
IT 151-21-3, Sodium dodecyl sulfate, uses 9002-92-0, Polyethylene glycol monododecyl ether 25155-30-0, Sodium dodecylbenzenesulfonate
RL: COS (Cosmetic use); FFD (Food or feed use); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Diehl, F; US 3794605 A 1974 HCAPLUS
(2) Hill, E; US 3184421 A 1965 HCAPLUS
(3) Inst Nat Rech Agronomique; FR 2789080 A 2000 HCAPLUS
(4) Sakai, T; US 3994827 A 1976 HCAPLUS
(5) Salamone, J; US 4321261 A 1982 HCAPLUS
(6) Touey, G; US 3236779 A 1966 HCAPLUS
(7) Unilever; WO 9942548 A 1999 HCAPLUS
IT **9032-44-4P, Cellulose acetate sulfate**
RL: COS (Cosmetic use); FFD (Food or feed use); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(thermoreversible and thixotropic hydrogels contg. **cellulose sulfoacetate** and surfactant that dissolve rapidly in water)
RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

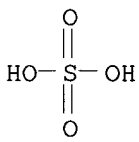
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

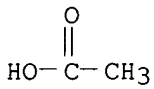
CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7

CMF C2 H4 O2



L100 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN **2002:491761** HCAPLUS
DN **137:339217**
TI Purification of water-soluble **cellulose sulfoacetate** salts
IN Shishova, I. I.; Pyatakina, N. K.; Bon, A. I.; Zhil'tsova, I. A.; Solodikhin, N. I.; Gorlova, G. L.
PA Russia
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian
IC ICM C08B003-06
ICS B01D061-00
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2171812	C2	20010810	RU 1998-120318	19981112

AB The title salts produced by sulfation of partially sapond. **cellulose acetate** with **H2SO4** and neutralization are subjected to mech. filtration followed by membrane filtration (diafiltration) to remove low-mol.-wt. components and byproducts, and concn. of purified solns. The polymer membranes having selectivity 97-99% for proteins with mol. wt. 20000 are used and the process is conducted at 20-25.degree. and pressure 0.1-0.7 MPa.
ST **cellulose sulfate acetate** salt purifn membrane filtration; diafiltration **cellulose sulfate acetate** salt purifn
IT Ultrafiltration
(diafiltration; purifn. of water-sol. **cellulose sulfoacetate** salts by)
IT 9004-35-7, UAM
RL: NUU (Other use, unclassified); USES (Uses)
(membrane, UAM 200; purifn. of water-sol. **cellulose sulfoacetate** salts by ultrafiltration)
IT 124587-23-1, UPM
RL: NUU (Other use, unclassified); USES (Uses)
(purifn. of water-sol. **cellulose sulfoacetate** salts by ultrafiltration)
IT **9032-44-4DP, Cellulose acetate sulfate**, salts **145268-50-4P**, Sodium **cellulose sulfoacetate 474043-89-5P**, Potassium **cellulose sulfoacetate 474043-90-8P**, Barium **cellulose sulfoacetate**
RL: PUR (Purification or recovery); PREP (Preparation)
(purifn. of water-sol. **cellulose sulfoacetate** salts by ultrafiltration)
IT **9032-44-4DP, Cellulose acetate sulfate**, salts **145268-50-4P**, Sodium **cellulose sulfoacetate 474043-89-5P**, Potassium **cellulose sulfoacetate 474043-90-8P**, Barium **cellulose sulfoacetate**
RL: PUR (Purification or recovery); PREP (Preparation)

(purifn. of water-sol. **cellulose sulfoacetate** salts
by ultrafiltration)
RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

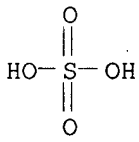
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

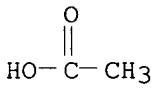
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



RN 145268-50-4 HCAPLUS
CN Cellulose, sulfoacetate, sodium salt (9CI) (CA INDEX NAME)

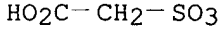
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S



RN 474043-89-5 HCAPLUS
CN Cellulose, sulfoacetate, potassium salt (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S

$HO_2C-CH_2-SO_3H$

RN 474043-90-8 HCAPLUS
CN Cellulose, sulfoacetate, barium salt (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 123-43-3
CMF C2 H4 O5 S

$HO_2C-CH_2-SO_3H$

L100 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN **2000:535182** HCAPLUS
DN **133:137001**
TI Method for producing **cellulose sulfoacetate** derivatives and products and mixtures thereof
IN **Chauvelon, Gaelle; Saulnier, Luc; Buleon, Alain; Thibault, Jean-Francois**
PA Institut National de la Recherche Agronomique (INRA), Fr.
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C08B007-00
ICS C08B003-06
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000044791	A1	20000803	WO 2000-FR205	20000128

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,

CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
FR 2789080 A1 20000804 FR 1999-1049 19990129
FR 2789080 B1 20010420
EP 1165618 A1 20020102 EP 2000-901672 20000128
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
BR 2000007802 A 20020205 BR 2000-7802 20000128
PRAI FR 1999-1049 A 19990129
WO 2000-FR205 W 20000128

AB A method for directly producing a mixt. of **cellulose sulfoacetate** derivs. by esterification of cellulosic material, is characterized in that it comprises the following steps: i) the cellulosic material is suspended in a **glacial acetic acid** soln. and the excess **acetic acid** is eliminated, ii) the cellulosic acid that is swollen with **acetic acid** is suspended in a **sulfuric acid** soln. in **glacial acetic acid**, and iii) the **cellulose** material is made to react by adding **acetic anhydride**. This process provides products with controlled acetylation degree, sulfation 0.2-0.6, controlled d.p., good soly. in polar solvents, good rheol. properties., and retention of water in presence of salt.

ST **cellulose acetate sulfate** manuf

IT Gels
(producing **cellulose sulfoacetate** deriv. thermoreversible gels)

IT **9032-44-4P, Cellulose acetate sulfate**
51910-28-2P, Sodium **cellulose acetate sulfate** **286942-63-0P**, Potassium **cellulose acetate sulfate**
RL: **IMF (Industrial manufacture)**; PRP (Properties); **PREP (Preparation)**
(producing **cellulose sulfoacetate** derivs.)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Aikhodzhaev, B; VYSOKOMOL SOEDIN, SER A 1982, V24(6), P1317 HCAPLUS
(2) Anon; 1982, 10, HCAPLUS
(3) Eastman Kodak Company; GB 1177480 A 1970 HCAPLUS
(4) Hiatt, G; US 3075962 A 1963 HCAPLUS
(5) Hiatt, G; US 3075963 A 1963 HCAPLUS
(6) Ott; "cellulose and cellulose derivatives part II", Chapter IX 1963, P775

IT **9032-44-4P, Cellulose acetate sulfate**
51910-28-2P, Sodium **cellulose acetate sulfate** **286942-63-0P**, Potassium **cellulose acetate sulfate**
RL: **IMF (Industrial manufacture)**; PRP (Properties); **PREP (Preparation)**
(producing **cellulose sulfoacetate** derivs.)

RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

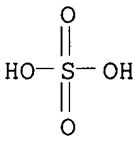
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

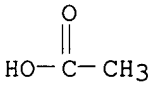
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



RN 51910-28-2 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)

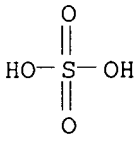
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

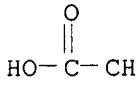
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



RN 286942-63-0 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, potassium salt (9CI) (CA INDEX NAME)

CM 1

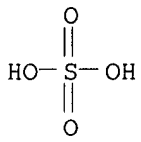
CRN 9004-34-6

CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

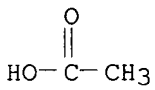
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:367329 HCAPLUS
DN 125:36155
TI Manufacture of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite molecular structure and their use in product of **cellulose** phosphate and **cellulose sulfate**
IN Wagenknecht, Wolfgang
PA Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung e.V., Germany
SO Ger., 7 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM C08B007-00
ICS C08B005-00; C08B005-14
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 4435082	C1	19960418	DE 1994-4435082	19940930

OS MARPAT 125:36155
AB The title mixed esters with phosphate or **sulfate** groups in the C2, C3, and C6 position are manufd. by deacetylation of **cellulose** triacetate (I) 0.5-72 h at 20-100.degree. with an amine in an aprotic solvent and phosphation/sulfation. Thus, reaction of I [acetylation degree (DSac) 2.90, OAc group distribution C1 = 1, C3 = 1, C6 = 0.9] with Me2NH in aq. DMSO 20 h at 80.degree. gave a product with DSac 0.85, C2 = 0.05, C3 = 0.15, C6 = 0.7, which was phosphated 6 h at 120.degree. with polyphosphoric acid in DMF in the presence of Bu3N and washed with EtOH contg. 4% **NaOH** and 8% water to give Na **cellulose acetate** phosphate with DSac 0.83 and phosphation degree (DSp)

1.20, which was deacetylated by treatment with EtOH contg. 4% **NaOH** and 8% water to give Na **cellulose** phosphate with DSp 0.96 and C2/C3 = 0.77 and C6 = 0.19.

ST amine deacetylation **cellulose** triacetate; aprotic solvent deacetylation **cellulose** triacetate; phosphate **cellulose acetate** manuf; **sulfate cellulose acetate** manuf

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation agents; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT Deacetylation
(manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(di-, deacetylation agents; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(secondary, deacetylation agents; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT 111-26-2, 1-Hexanamine 124-09-4, 1,6-Hexanediamine, reactions 124-40-3, Dimethylamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation agent; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT 9004-35-7P, **Cellulose acetate**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT 9005-22-5P, Sodium **cellulose sulfate** 9038-41-9P, Sodium **cellulose** phosphate
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT **51910-28-2P**, Sodium **cellulose acetate sulfate** 177931-55-4P, Sodium **cellulose acetate** phosphate **177931-56-5P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT 9012-09-3, **Cellulose** triacetate

RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT 67-68-5, DMSO, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

IT **51910-28-2P**, Sodium **cellulose acetate sulfate** **177931-56-5P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of **cellulose acetate** phosphate and **cellulose acetate sulfate** with definite mol. structure and their use in product of **cellulose** phosphate and **cellulose sulfate**)

RN 51910-28-2 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)

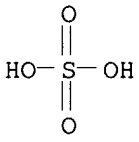
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

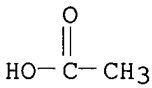
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



RN 177931-56-5 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, ammonium salt (9CI) (CA INDEX NAME)

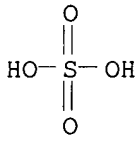
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

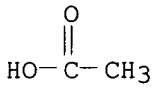
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN **1995:781865** HCAPLUS
DN **123:173199**
TI Semipermeable **cellulose acetate sulfate** membrane
IN Shishova, Irina I.; Bon, Aleksandr I.; Mironova, Lyubov V.; Zhiltsova, Irina A.; Pyatakina, Nina K.; Galtseva, Olga V.
PA Russia
SO Russ.
From: Izobreteniya 1994, (13), 31.
CODEN: RUXXE7
DT Patent
LA Russian
IC ICM B01D071-16
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RU 2015725	C1	19940715	RU 1992-5055062	19920716
PRAI SU 1992-5055062		19920716		

AB Title only translated.
ST semipermeable membrane **cellulose** ester
IT Membranes
(semipermeable, **cellulose acetate sulfate** solns. for prepn. of)
IT **9032-44-4, Cellulose acetate sulfate**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(semipermeable membranes from solns. of)
IT **9032-44-4, Cellulose acetate sulfate**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(semipermeable membranes from solns. of)
RN 9032-44-4 HCAPLUS

CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

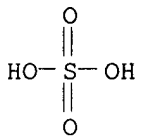
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

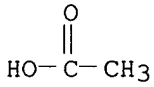
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:273335 HCAPLUS
DN 120:273335
TI Preparation, properties and application of **cellulose acetate sulfate**
AU Pyatakina, N. K.; Kryazhev, V. N.
CS USSR
SO Khimiya i Tekhnologiya Efirov Tsellyulozy, NPO "Polimersintez", M. (1991) 94-103
From: Ref. Zh., Khim. 1992, Abstr. No. 12F38 check.
DT Journal
LA Russian
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
AB Title only translated.
ST **sulfate acetate cellulose** property application; **acetate sulfate cellulose** prepn
IT **9032-44-4DP, Cellulose acetate sulfate**, derivs.
RL: PREP (Preparation)
(prepn. and properties and use of)
IT **9032-44-4DP, Cellulose acetate sulfate**, derivs.
RL: PREP (Preparation)
(prepn. and properties and use of)
RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

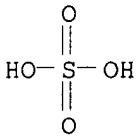
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

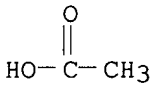
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:492506 HCAPLUS
DN 117:92506
TI Preparation of **cellulose** (**acetate**) **sulfate** free of foreign salts
IN Wagenknecht, Wolfgang; Ludwig, Juergen; Philipp, Burkart; Walenta, Katja; Gensrich, Juergen; Paul, Dieter; Schnabelrauch, Mathias; Radig, Wolfram; Boehme, Gottfried; et al.
PA Institut fuer Polymerenchemie, Germany
SO Ger. (East), 5 pp.
CODEN: GEXXA8
DT Patent
LA German
IC ICM C08B007-00
ICS C08B005-14
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DD 298790	A5	19920312	DD 1989-336317	19891227

check.

AB The title esters are prepd. by sulfation of **cellulose** **acetate** (I) in DMF, esterification of **cellulose** with **H2SO4-Ac2O**, or deacetylation, with purifn. under specified conditions. Adding 600 mL ClSO3H in 4 L DMF over 15 min to 2 kg I [degree of substitution (DS) 2.3] in 15 L DMF stirred at .ltoreq.25.degree., stirring at 20.degree. for 2 h, adding 5 kg NaOAc, 12.5 L H2O, and 3 L DMF to give a pH of 6, stirring 30 min, pouring the soln. into 80 L 5% aq. NaOAc, stirring 1 h, washing 3 times with 5% NaOAc and 3 times with EtOH, and drying at 40.degree. in vacuo gave

cellulose acetae **sulfate** (DS 2.3 and 0.4, resp.) which was free of foreign salts and highly swellable by water.
ST **acetate sulfate cellulose** salt free; sulfation **cellulose acetate** DMF
IT 9032-43-3P, **Cellulose** sulfate **9032-44-4P**, **Cellulose acetate sulfate**
RL: PREP (Preparation)
(manuf. of salt-free)
IT **9032-44-4P, Cellulose acetate sulfate**
RL: PREP (Preparation)
(manuf. of salt-free)
RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

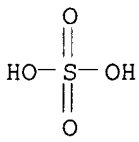
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

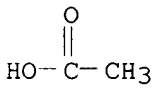
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:480742 HCAPLUS
DN 113:80742
TI Preparation of soluble **cellulose** phosphate and sulfate esters in nonaqueous systems
AU Philipp, Burkart; Wagenknecht, Wolfgang; Nehls, Irene; Schnabelrauch, Matthias; Klemm, Dieter
CS Inst. Polymerenchem. "Erich Correns", Akad. Wiss. DDR, Teltow-Seehof, DDR-1530, Ger. Dem. Rep.
SO Papier (Bingen, Germany) (1989), 43(12), 700-6
CODEN: PAERAY; ISSN: 0031-1340
DT Journal
LA German
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
AB Prepn. of **cellulose** phosphates and sulfates from derived and

underived **cellulose** and the effects of the acylating agent on esterification is studied and discussed. In prepn. of anionic water-sol. **cellulose** phosphates and sulfates, synthesis via nonstable intermediates was more successful than direct acylation of underived forms. In sulfation with SO3 in N2O4/DMF, transesterification as well as direct acylation of free OH groups occurred. In phosphation in a nitrite system and sulfation of partially substituted **cellulose**, no evidence for transesterification was obsd. The regioselectivity was affected by the acylating agent, i.e., in sulfation with NOSO4H as well as SO2, sulfation occurred mainly in the C-6 position, but using SO3 and an excess of water resulted in a strong shift to C-2/C-3 substitution.

ST phosphate **cellulose** prepn esterification; sulfate **cellulose** prepn esterification; transesterification **cellulose** phosphate sulfate prepn; regioselectivity **cellulose** phosphate sulfate prepn

IT Chains, chemical
(structure of, of **cellulose** phosphate and sulfate, regioselectivity and acylating agent in relation to)

IT 9004-35-7
RL: USES (Uses)
(esterification and transesterification of, in **cellulose** sulfate prepn.)

IT 10025-87-3, Phosphoryl chloride
RL: USES (Uses)
(esterification of **cellulose** with, regioselectivity in relation to)

IT 7446-11-9, Sulfur trioxide, reactions 7790-94-5, Chlorosulfuric acid 7791-25-5, Sulfonyl dichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of **cellulose** with, regioselectivity in relation to)

IT **9032-44-4P, Cellulose acetate sulfate**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and NMR spectra of)

IT 9015-14-9P, **Cellulose** phosphate 9032-43-3P, **Cellulose** sulfate
RL: PREP (Preparation)
(prepn. of, regioselectivity in, acylating agent effect on)

IT **9004-34-6, Cellulose**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfation and phosphation of, regioselectivity in, acylation agent effect on)

IT **9032-44-4P, Cellulose acetate sulfate**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and NMR spectra of)

RN 9032-44-4 HCAPLUS

CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

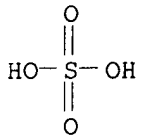
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

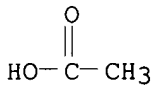
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



IT **9004-34-6, Cellulose**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfation and phosphation of, regioselectivity in, acylation agent effect on)
RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L100 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:178284 HCAPLUS
DN 106:178284
TI Homogeneous synthesis of **cellulose** esters in nonaqueous solutions. 1. Esterification of **cellulose** dissolved in dimethylformamide-dinitrogen tetroxide mixtures
AU Grinshpan, D. D.; Emel'yanov, Yu. G.; Kaputskii, F. H.
CS Beloruss. Gos. Univ., Minsk, USSR
SO Koksnes Kimija (1987), (1), 30-5
CODEN: KHDRDQ; ISSN: 0201-7474
DT Journal
LA Russian
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
AB Esterification of **cellulose** (I) [**9004-34-6**] dissolved in DMF [68-12-2]-N2O4 mixt. proceeded slowly and to low substitution degrees, apparently due to blocking of OH groups of I by N2O4. The reaction rate and substitution degree increased on addn. of substances capable of interactions with N2O4. By choosing proper reaction conditions, simple or mixed esters of I with varying substitution degree can be obtained.
ST esterification **cellulose** DMF dinitrogen tetroxide; nitrogen oxide DMF esterification **cellulose**
IT Amides, uses and miscellaneous
RL: USES (Uses)
(**cellulose** esterification in DMF-dinitrogen tetroxide mixt. in presence of)
IT Esterification catalysts
(for **cellulose** in DMF-dinitrogen tetroxide mixt.)
IT 10544-72-6, Dinitrogen tetroxide
RL: USES (Uses)
(DMF mixt., **cellulose** esterification in)
IT **108-24-7, Acetic anhydride** 110-86-1, Pyridine, uses and miscellaneous **7664-93-9, Sulfuric acid**, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **cellulose** esterification in DMF-dinitrogen tetroxide mixt.)

IT 55-21-0, Benzamide 57-13-6, Urea, uses and miscellaneous 60-35-5, Acetamide, uses and miscellaneous 88-97-1, Phthalic acid monoamide 619-80-7, 4-Nitrobenzamide 638-32-4, Succinic acid monoamide 5329-14-6, Sulfamic acid 13765-36-1, Sulfamic acid ammonium salt 107990-50-1
RL: USES (Uses)
(**cellulose** esterification in DMF-dinitrogen tetroxide mixt. in presence of)

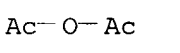
IT 68-12-2, uses and miscellaneous
RL: USES (Uses)
(dinitrogen tetroxide mixt., **cellulose** esterification in)

IT **9004-34-6, Cellulose**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, in DMF-dinitrogen tetroxide mixt.)

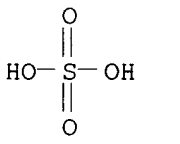
IT 9004-35-7P, **Cellulose acetate** 9004-44-8P, **Cellulose** phthalate 9004-70-0P, **Cellulose** nitrate 9015-14-9P, **Cellulose** phosphate 9032-43-3P, **Cellulose** sulfate **9032-44-4P, Cellulose acetate sulfate** 9032-47-7P, **Cellulose** benzoate 9032-48-8P, **Cellulose acetate** nitrate 9062-25-3P, **Cellulose** 4-nitrobenzoate 57126-19-9P, **Cellulose** succinate 57126-98-4P 62930-93-2P, **Cellulose acetate** benzoate 107852-17-5P 107852-18-6P
RL: PREP (Preparation)
(prepn. of, in DMF-dinitrogen tetroxide mixt.)

IT **108-24-7, Acetic anhydride 7664-93-9, Sulfuric acid**, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **cellulose** esterification in DMF-dinitrogen tetroxide mixt.)

RN 108-24-7 HCAPLUS
CN Acetic acid, anhydride (9CI) (CA INDEX NAME)



RN 7664-93-9 HCAPLUS
CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)



IT **9004-34-6, Cellulose**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, in DMF-dinitrogen tetroxide mixt.)

RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **9032-44-4P, Cellulose acetate sulfate**
RL: PREP (Preparation)
(prepn. of, in DMF-dinitrogen tetroxide mixt.)

RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

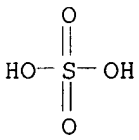
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

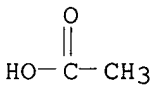
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:43464 HCAPLUS
DN 92:43464
TI Rapid hydrolysis of **celluloses** in homogeneous solution
AU Garves, Klaus
CS Inst. Wood Chem. Chem. Technol. Wood, Fed. Res. Cent. For. Forest Prod., Hamburg, 2050, Fed. Rep. Ger.
SO Advances in Chemistry Series (1979), Volume Date 1978, 181(Hydrolysis Cellul.: Mech. Enzym. Acid Catal.), 159-65
CODEN: ADCSAJ; ISSN: 0065-2393
DT Journal
LA English
CC 43-2 (**Cellulose**, Lignin, Paper, and Other Wood Products)
AB Dissoln. of **cellulose** (I) [**9004-34-6**], cotton, and cotton linters in a mixt. of **AcOH**, **Ac2O**, **H2SO4**, and DMF at 120-60.degree. resulted in rapid and complete hydrolysis of I with decompn. of the **cellulose acetate sulfate** formed by gradual addn. of aq. acid. Highly cryst. I is quickly decompd. to glucose with min. byproduct formation. Carbohydrate products contg. sugar units other than glucose, are hydrolyzed with destruction of monosaccharides.
ST cotton hydrolysis **sulfuric acid** DMF; **acetic acid** DMF hydrolysis **cellulose**; linter homogeneous hydrolysis acid soln
IT Cotton
Linters
(hydrolysis of, in DMF contg. **acetic acid** and **sulfuric acid**, homogeneous)

IT Hydrolysis
(of **cellulose**, by DMF contg. **acetic acid** and **sulfuric acid**, homogeneous)
IT **9032-44-4P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in homogeneous hydrolysis of **cellulose** by DMF contg. **acetic acid** and **sulfuric acid**)
IT **108-24-7** 7601-90-3, reactions **7664-93-9**, reactions
RL: USES (Uses)
(hydrolysis by DMF and **acetic acid** and, of **cellulose**)
IT **64-19-7**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis by DMF and **sulfuric acid** and, of **cellulose**)
IT 75-12-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis by **acetic acid** and **sulfuric acid** and, of cotton)
IT **9004-34-6**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, in DMF contg. **acetic acid** and **sulfuric acid**, homogeneous)
IT **9032-44-4P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in homogeneous hydrolysis of **cellulose** by DMF contg. **acetic acid** and **sulfuric acid**)
RN 9032-44-4 HCAPLUS
CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

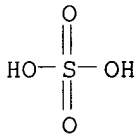
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

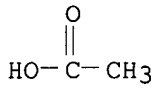
CM 2

CRN 7664-93-9
CMF H2 O4 S



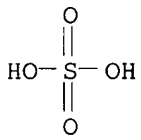
CM 3

CRN 64-19-7
CMF C2 H4 O2

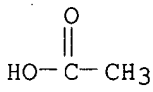


IT **108-24-7 7664-93-9**, reactions
RL: USES (Uses)
(hydrolysis by DMF and **acetic acid** and, of **cellulose**)
RN 108-24-7 HCAPLUS
CN Acetic acid, anhydride (9CI) (CA INDEX NAME)

RN 7664-93-9 HCAPLUS
CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)



IT **64-19-7**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis by DMF and **sulfuric acid** and, of **cellulose**)
RN 64-19-7 HCAPLUS
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



IT **9004-34-6**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, in DMF contg. **acetic acid** and **sulfuric acid**, homogeneous)
RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L100 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1977:108283 HCAPLUS
DN 86:108283
TI Alkali **cellulose** ester sulfates
IN Tunc, Deger C.
PA Johnson and Johnson, USA
SO U.S., 9 pp. Division of U.S. 3,897,782.
CODEN: USXXAM
DT Patent
LA English
IC C08B007-00
NCL 536059000
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4005251	A	19770125	US 1975-551570	19750220
	US 3897782	A	19750805	US 1974-431455	19740107
	NO 7404492	A	19750708	NO 1974-4492	19741212
	DK 7406625	A	19750825	DK 1974-6625	19741218
	AU 7476730	A1	19760624	AU 1974-76730	19741220
	SE 7500061	A	19750708	SE 1975-61	19750103
	FI 7500016	A	19750708	FI 1975-16	19750106
	FR 2256748	A1	19750801	FR 1975-253	19750106
	BE 824174	A1	19750707	BE 1975-152206	19750107
	NL 7500174	A	19750709	NL 1975-174	19750107
	ZA 7500128	A	19760825	ZA 1975-128	19750107
	NO 7503401	A	19750708	NO 1975-3401	19751008
PRAI	US 1974-431455		19740107		
	NO 1974-4492		19741212		

AB Sulfating **cellulose** pulp with a mixt. contg. **AcOH**, **Ac2O**, Na2SO4, and **H2SO4**, acetylating with **Ac2O** , and pptg. in aq. **NaOH** soln. gave sodium **cellulose acetate sulfate** (I) [**51910-28-2**] with 0.1-0.45 and 1.63-2.69 **sulfate** and Ac substitution degree (SD), resp., useful for manuf. of barrier films for body exudates. Thus, a mixt. of **Ac2O** 162.9, **AcOH** 52.5, Na2SO4 30.8, and 98% **H2SO4** 20.15 g was added to a slurry of 400 g pulp in 2000 g **AcOH**, stirred for 30 min at <32.degree., and treated with 112.0 g **H2SO4** to give sulfated pulp, which was treated with 1080 g **Ac2O**, stirred for 2 h at 32.degree., and poured into 6000 mL H2O while simultaneously adding 50% **NaOH** to maintain pH 5.3 to give 528.9 g I with 0.36 and 2.40 **sulfate** and Ac SD, resp., sol. in aq. Me2CO, with 328 s break-up time in distd. H2O in the slow break-up test, and 7479 psi dry tensile strength. Sulfation of **cellulose acetate** butyrate also gave sodium **cellulose acetate** butyrate **sulfate** [57485-48-0].

ST sodium **cellulose acetate sulfate**;
cellulose ester **sulfate** manuf

IT Pulp, **cellulose**
(sulfation and acetylation of)

IT **51910-28-2P** 57485-48-0P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of)

IT **51910-28-2P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of)

RN 51910-28-2 HCAPLUS

CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)

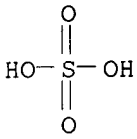
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

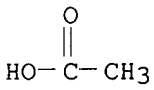
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1976:8844 HCAPLUS
DN 84:8844
TI Body fluid-impermeable films for sanitary napkins
IN Tunc, Deger
PA Johnson and Johnson, USA
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C08B
CC 62-1 (Essential Oils and Cosmetics)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2461870	A1	19750717	DE 1974-2461870	19741230
	US 3897782	A	19750805	US 1974-431455	19740107
	NO 7404492	A	19750708	NO 1974-4492	19741212
	DK 7406625	A	19750825	DK 1974-6625	19741218
	AU 7476730	A1	19760624	AU 1974-76730	19741220
	SE 7500061	A	19750708	SE 1975-61	19750103
	FI 7500016	A	19750708	FI 1975-16	19750106
	FR 2256748	A1	19750801	FR 1975-253	19750106
	BE 824174	A1	19750707	BE 1975-152206	19750107
	NL 7500174	A	19750709	NL 1975-174	19750107
	ZA 7500128	A	19760825	ZA 1975-128	19750107
	NO 7503401	A	19750708	NO 1975-3401	19751008
PRAI	US 1974-431455		19740107		
	NO 1974-4492		19741212		

AB Films impermeable to body fluids (blood and urine), but which decompd. in water, as when flushed in a toilet, were prepd. from **cellulose** C1-4 acyl ester **sulfate** resins having a degree of **sulfate** substitution of 0.27-0.36. For example, an aq. **cellulose** slowly was treated with **H2SO4** and Na acetyl **sulfate**, and the **cellulose sulfate** deriv. was acylate with **acetic anhydride** to give a soln. of sodium **cellulose acetate sulfate** [**51910-28-2**], with an **SO42-** substitution degree of 0.36. The soln. was poured onto a silicone release paper and evapd. to give a light-permeable flexible film. The compn. of the **cellulose** ester **sulfate** obtained was varied by changing the concns. of **H2SO4** and **acetic anhydride** used. The use of

these films in flushable sanitary napkins and similar products is illustrated.
ST **cellulose** ester sulfate film
IT Surgical dressings
(sanitary napkins, **cellulose acetate sulfate** films for)
IT **51910-28-2** 57485-48-0
RL: BIOL (Biological study)
(films of, for sanitary napkins)
IT **51910-28-2**
RL: BIOL (Biological study)
(films of, for sanitary napkins)
RN 51910-28-2 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)

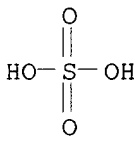
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

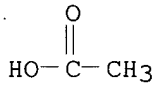
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1972:528338 HCAPLUS
DN 77:128338
TI Synthesis and study of the properties of **cellulose sulfoacetates**
AU Mirlas, D. L.
CS USSR
SO Tr. Vses. Nauch.-Issled. Inst. Tsellyul.-Bum. Prom. (1971), No. 59, 15-19
CODEN: TNTBAQ
DT Journal
LA Russian
CC 43-3 (**Cellulose**, Lignin, Paper, and Other Wood Products)
AB Acetylation of cotton in the presence of **H2SO4** as the catalyst gave mixed esters: **cellulose acetate sulfates**

(I) [**9032-44-4**]; I contg. 17.2% of chem. bonded **H2SO4** was insol. in acetone. The hydrolysis of I with 98-9% **AcOH** soln., without neutralization of the **sulfate** groups and of the free (occluded) **H2SO4**, gave I contg. 1.0% chem. bonded **H2SO4** which was sol. in acetone and had properties similar to **cellulose** diacetate used in the textile industry.

ST hydrolysis **cellulose acetate sulfate**; mixed ester **cellulose**

IT Hydrolysis
(of **cellulose acetate sulfate**)

IT **9032-44-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **9032-44-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 9032-44-4 HCAPLUS

CN Cellulose, acetate sulfate (9CI) (CA INDEX NAME)

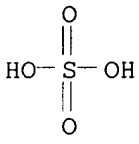
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

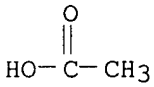
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2002 ACS

AN **1962:61657** HCAPLUS

DN **56:61657**

OREF 56:11865d-f

TI **Cellulose** esters containing the sulfonate group

IN Touey, George P.; Kiefer, John E.

PA Eastman Kodak Co

DT Patent

LA Unavailable

CC 49 (**Cellulose**, Lignin, Paper, and Other Wood Products)

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3008952		19611114	US	19600201

AB H2O-sol. **cellulose** derivs., i.e. **cellulose** esters contg. .alpha.-sulfo aliphatic acyl groups, are prepd. The esters have the formula X(OCOCnH2n+1)x[OCOCH(R)OSO2M]y, in which X is a substituted or unsubstituted **anhydroglucose** unit of the **cellulose** chain, n = 1-3, X + Y .ltoreq. 3; R is H or C1-2 alkyl group, and M is H, Na, or K. These products are prepd. by treating an .alpha.-sulfoaliphatic acid contg. 2-4 C atoms with **cellulose** by using a fatty acid anhydride as an impeller and a basic catalyst. Thus, wood pulp 162 was slurried in C5H5N 1000, and .alpha.-sulfoacetic acid 140 and **Ac2O** 400 parts were added. This mixt. was refluxed 3 hrs. until the wood pulp dissolved. The product was pptd. and washed in a soln. of MeOH 80, H2O 17, and NaOAc 3%, and was dried at 100.degree.. The **cellulose acetate** Na **sulfoacetate** contained 4.3% S and 32.1% Ac. A 1% H2O soln. of the product had a viscosity of 500 cp. at 25.degree.

IT **Cellulose** esters
(with .alpha.-sulfoacyl groups)

IT **Cellulose acetate, sulfoacetate,** Na salt

IT Acids, standard solns. of
(.alpha.-sulfo carboxylic, mixed esters with **cellulose** from fatty acid anhydrides)

IT 123-43-3, **Acetic acid,** sulfo-
(**cellulose acetate** ester, Na salt)

IT 9003-07-0, Propene polymers
(rayon tow sprayed with, tobacco smoke filter from)

L100 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2002 ACS

AN **1962:26017** HCAPLUS

DN **56:26017**

OREF 56:5000i,5001a

TI Properties and potential uses of sodium **cellulose acetate sulfate,** a new water-soluble **cellulose** derivative

AU Touey, George P.; Gearhart, William M.

CS Eastman Kodak Co., Kingsport, TN

SO J. Chem. and Eng. Data (1961), 6, 566-9

DT Journal

LA Unavailable

CC 49 (**Cellulose,** Lignin, Paper, and Other Wood Products)

AB The title ester (I) was prepd. by treating **cellulose** with a soln. of Na2SO4 and **Ac2O** in **AcOH**. The resultant material was a neutral, white, granular, free-flowing powder contg. a small amt. of urea as a heat stabilizer. The normal moisture content was 8-10%. The viscosity of 3 solns. was evaluated with respect to stability, effect of pH, and compatibility with salt solns. and other H2O-sol. polymers. The films prepd. were clear, flexible, and oil resistant. The addn. of a plasticizer imparts heat sealability at 120.degree.. Applications of I include: warp size for **cellulose acetate** yarn, adhesive for paper, thickening agent for cheap glues, creaming agent for natural rubber latex, material for oilwell drilling muds, and a detergent additive to prevent soil deposition during laundering.

IT **Cellulose, sulfate acetate,** Na salt
(and its uses)

IT **51910-28-2, Cellulose acetate, sulfate**
Na salt
(and its uses)

IT 57-13-6, Urea
(**cellulose acetate sulfate** Na salt heat-stabilized by)

IT **51910-28-2, Cellulose acetate, sulfate**

Na salt
(and its uses)
RN 51910-28-2 HCAPLUS
CN Cellulose, acetate hydrogen sulfate, sodium salt (9CI) (CA INDEX NAME)

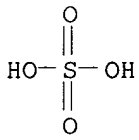
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

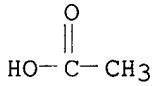
CM 2

CRN 7664-93-9
CMF H2 O4 S



CM 3

CRN 64-19-7
CMF C2 H4 O2



L100 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN **1919:13914** HCAPLUS
DN **13:13914**
OREF 13:2760h-i,2761a-e
TI Chloroform-and acetone-soluble **cellulose acetate**
AU Ost., H.
SO Z. angew. Chem. (1919), 32, 66-70,76-9,82-9 ←
DT Journal
LA Unavailable
CC 23 (**Cellulose** and Paper)
AB cf. C. A. 7, 3836, 2303. This article deals only with **cellulose acetates** in which the **cellulose** molecule has not been broken down. The general methods of prepn. and analysis are briefly reviewed. O. claims his method of sapon. with cold 50% **H2SO4** (by vol.) followed by steam distn. is better than that of Knoevenagel (C. A. 9, 524), using alkali without distn. The different methods of prepg. **cellulose** triacetate are compared as well as the products. The following catalysts are considered: ZnCl2, **H2SO4**, (NH3Me)2SO4; also the general subjects of incomplete esterification, acetylation of hydrocellulose, behavior of primary **acetates** toward hot dil. acids, pseudo acetone soly., acetone soly., and methods of obtaining it. Many references are given to both patent and technical literature; also many analyses of typical products. All **cellulose acetates** made with catalysts containing the **sulfate**

radical, contain **sulfoacetate**; the acetylation is incomplete; and low temp. and longer time favor low **sulfoacetate** content. The mixed esters containing **sulfoacetate** are slimy, undergo partial sapon. when pptd. with H2O, dissolve only partially or not at all in chloroform, dissolve in alcohol and as % **H2SO4** increases, in water. **H2SO4** is split off when the **sulfoacetates** are boiled with water, and where % **H2SO4** is high, a spontaneous sapon. occurs even in the dry, with gradual loss of **AcOH**. All primary **acetates** give a part sol. in pure acetone, but on evapn. of the acetone soln. the residue is not again completely sol. in acetone. Furthermore, the part originally insol. in acetone if dissolved in CHCl3, on evapn. of the CHCl3 becomes partially sol. in acetone. These are examples of "pseudo" acetone soly. All non-degraded **cellulose acetates** are considered as derivs. of hydrocellulose. No primary **acetate** is acetone-sol., and only certain secondary **acetates**. The sol. secondary **acetates** are derived from the former on partial sapon., always contain less **AcOH**, and are almost free from **H2SO4**. Dil. aq. mineral acids saponify readily but do not give acetone-sol. products. **H2SO4**-bisulfates, and methylammonium **sulfate** with a little H2O, give acetone-sol. products in **AcOH** soln. Particularly good acetone soly. may be obtained by heating **acetates** made with ZnCl2 with 95% **AcOH**; or with aniline or phenol with or without H2O. Acetone soly. does not depend on any particular degree of sapon. The claim that acetone soly. is due to a rearrangement and not to sapon. is erroneous and based on incorrect detn. of the **AcOH** content.

```
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FILE 'WPIX' ENTERED AT 13:37:06 ON 07 DEC 2002
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FILE LAST UPDATED:          4 DEC 2002      <20021204/UP>
MOST RECENT DERWENT UPDATE:     200278        <200278/DW>
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    /BIX is also provided which comprises both /BI and /ABEX <<<

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>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d all abeq tech abex tot

L121 ANSWER 1 OF 3  WPIX (C) 2002 THOMSON DERWENT
AN   2000-543366 [49]   WPIX
DNC  C2000-161640
TI   Cellulose acetate preparation from cellulose, by swelling in acetic acid,
     suspending in sulfuric-acetic acid solution and reacting with
     acetic anhydride, giving water-soluble, high viscosity
     product useful as thickener.
DC   A11 D17
```

IN BULEON, A; CHAUVELON, G; SAULNIER, L; THIBAULT, J F; THIBAULT, J
PA (INRG) INRA INST NAT RECH AGRONOMIQUE
CYC 91
PI WO 2000044791 A1 20000803 (200049)* FR 26p C08B007-00 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
FR 2789080 A1 20000804 (200049) C08B007-00 <--
AU 2000022997 A 20000818 (200057) C08B007-00 <--
EP 1165618 A1 20020102 (200209) FR C08B007-00 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
BR 2000007802 A 20020205 (200213) C08B007-00 <--
ADT WO 2000044791 A1 **WO 2000-FR205 20000128**; FR 2789080 A1 FR 1999-1049 19990129; AU 2000022997 A AU 2000-22997 20000128; EP 1165618 A1 EP 2000-901672 20000128, **WO 2000-FR205 20000128**; BR 2000007802 A BR 2000-7802 20000128, **WO 2000-FR205 20000128**
FDT AU 2000022997 A Based on WO 200044791; EP 1165618 A1 Based on WO 200044791; BR 2000007802 A Based on WO 200044791
PRAI FR 1999-1049 19990129
IC ICM **C08B007-00**
ICS **C08B003-06**; **C08B005-14**; C08J003-075
AB WO 200044791 A UPAB: 20001006
NOVELTY - Direct preparation of a mixture (I) of water-soluble cellulose sulfo-acetate derivatives by esterification of a cellulosic material (II) involves: (i) suspending (II) in a solution of glacial acetic acid and removing the excess acetic acid; (ii) suspending the acetic acid-swollen product in a solution of sulfuric acid in glacial acetic acid; and (iii) adding **acetic anhydride** and reacting.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for (I) obtained by the process, in which the degree of acetylation is 1.5-2.4.

USE - (I) are water-soluble cellulose acetate derivatives which have water-retaining properties and form thermo-reversible, partially thixotropic gels (claimed). They are potentially useful as thickeners (due to their high viscosity); no specific applications are given.

ADVANTAGE - The process gives (I) directly (i.e. with no need for a preliminary stage for the deacetylation of cellulose triacetate) and with almost no depolymerization of the cellulose chain. (I) have controllable and variable degrees of acetylation and polymerization (depending on (II)); high solubility in water and polar solvents; and good rheological properties, i.e. high viscosity, similar to those of associated polymers.

Dwg.0/2
FS CPI
FA AB
MC CPI: A03-A02; A03-A03; A10-A; A10-E07; A10-E24; D06-H
TECH UPTX: 20001006
TECHNOLOGY FOCUS - POLYMERS - Preferred Process: The process further comprises: (iv) terminating the reaction by adding aqueous acetic acid solution; (v) optionally centrifuging; (vi) washing and discarding any sediment formed; (vii) adding water to precipitate any cellulose triacetate formed; (viii) centrifuging and discarding the sediment; (ix) neutralizing the supernatant, optionally with cooling; (x) dialyzing the obtained precipitate; and (xi) lyophilizing the solution. Preferably in step (vi) the sediment is washed 3 times with acetic acid then 3 times with deionized water; in step (vii) the mixture is kept at 4degreesC for ca.16 hours; and step (ix) involves slow addition of sodium hydroxide solution to give a pH of 7.5, and is carried out with cooling in an ice bath while continuously monitoring the pH such that it does not exceed 8. **Acetic anhydride** is used at 3-7 (preferably 3.2) moles per mole of **anhydroglucose**. Esterification is carried out for

1-60 (preferably 20-30) minutes at 25-80 (preferably ca. 40) degreesC. (II) consists of purified cellulosic residues obtained from agricultural by-products, especially cereal (e.g. wheat or maize) bran; wood (e.g. pine) cellulose; or microcrystalline cellulose. Preferred Product: (I) has a degree of sulfation of 0.2-0.6 (preferably 0.3), and is specifically sulfated only in the 6-positions of the **anhydroglucose** units. The viscosity average degree of polymerization of (I) is almost identical with that of (II), e.g. 210-1500. The intrinsic viscosity of (I) is 600-1500 ml/g. (I) have water-retention properties, in that they swell up to 200 ml/g in presence of salts, while remaining insoluble. (I) are free of triacetyl derivatives, and are thermally stable for 16 hours at 80degreesC.

ABEX

EXAMPLE - Avicel (RTM; 97.4% pure, highly crystalline cellulose having a degree of polymerization of 210) was suspended in acetic acid solution (50 g/l) with stirring for 15 minutes at ambient temperature. After centrifugation at 2250 g for 10 minutes at 20degreesC, the supernatant was discarded. This procedure was repeated twice. The cellulose (50 g/l) was then immersed at room temperature in a solution of acetic acid and sulfuric acid (12 g/l), followed by stirring for 1 minute at room temperature. Acetic anhydride (3.2 moles per mole anhydroglucose) was added, and the mixture was stirred for 1 minute then further stirred for 30 minutes at 40degreesC. Reaction was terminated by adding a 70% solution of acetic acid, followed by stirring at ambient temperature for 30 minutes. After centrifugation at 2250 g for 10 minutes at 35degreesC, the supernatant was recovered and the sediment was washed 3 times with acetic acid then 3 times with deionized water. The washings were combined with the supernatant. The obtained solution was added slowly to 4 times its volume of deionized water under stirring, and the mixture was kept at 4degreesC for 16 hours to precipitate any cellulose triacetate present. The supernatant was recovered by centrifugation at 17500 g for 20 minutes at 4degreesC, neutralized to pH 7.5 by slow addition of 4M sodium hydroxide solution and cooled in an ice-bath. The obtained precipitate was dialyzed against deionized water until the conductivity of the dialysis water was below 1 muS/cm. The obtained cellulose sulfo-acetate contained 531 mg/g of cellulose, had a degree of acetylation of 2.3 and a degree of sulfation of 0.3, was non-crystalline and had an intrinsic viscosity of 1470 ml/g. The esterification yield was 1.7 g/g.

L121 ANSWER 2 OF 3 WPIX (C) 2002 THOMSON DERWENT
AN **1988-312832** [44] WPIX
DNC **C1988-138514**
TI Prepn. of **cellulose sulphate** - by treating **cellulose** with sodium, potassium, ammonium or magnesium **sulphate** or pyrosulphate in DMF.
DC A11 A81
IN BILDYUKEVI, A V; GERT, E V; TORGASHOV, V I
PA (BELU) BELORUSSIAN LENIN UNIV
CYC 1
PI SU 1381118 A 19880315 (198844)* 4p
ADT SU 1381118 A SU 1986-4055508 19860415
PRAI SU 1986-4055508 19860415
IC **C08B005-14**
AB SU 1381118 A UPAB: 19930923
Cellulose sulphates are obtd. more efficiently when cellulose is reacted with a soln. of Na, K, NH4 or Mg sulphate or pyrosulphate in DMF, in the presence of additional **acetic anhydride** taken in amts. of 0.48-2.83 g/g. of cellulose. The prod. finds use in the mfr. of adhesives, suspensions and emulsifiers.
ADVANTAGE - Time of reaction is reduced for 12-48 to 3-10 hrs.
Bul.10/15.3.88.
0/0
FS CPI

FA AB
MC CPI: A03-A03; A10-E24; A12-A05A; A12-W12C

L121 ANSWER 3 OF 3 WPIX (C) 2002 THOMSON DERWENT
AN **1975-39378W** [24] WPIX
TI Fast and simple prodn. of **sulphatized** carbohydrates - by reacting carbohydrates with sulphuric acid and ethers, and removing excess acid.
DC A11 A96 A97 B04
PA (BISC-I) BISCHOFF K H
CYC 1
PI DD 112456 A 19750412 (197524)*
PRAI DD 1974-177003 19740307
IC **C08B005-14**; C08B019-02
AB DD 112456 A UPAB: 19930831
Carbohydrates and derivs. are sulphatised by reacting them with H2SO4 to which 0.2-5 mole of a liq. ether R1-O-R2 is added (where R1 and R2=alkyl), for 2-60 min. at 10-30 degrees C.· (I) are sepd. and excess H2SO4 is removed with miscible org. solvents (I) are used as additives in the prepn. of surface-structures, as emulsion stabilisers in pharmaceutical-, cosmetic- and food inds. as well as for analytical or technical separating processes. The process is technologically and technically simple and economical.
Yields are high and prods. pure.
FS CPI
FA AB
MC CPI: A03-A01; A10-E12; B04-C02; B12-M06

=> d his

(FILE 'HOME' ENTERED AT 12:32:17 ON 07 DEC 2002)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 12:32:34 ON 07 DEC 2002
E CELLULOSE/CN
L1 1 S E3
E CELLULOSE SULFOACETATE/CN
E SULFOACETATE/CN
L2 1 S E4
L3 4 S 9004-34-6/CRN AND 123-43-3/CRN
L4 3 S L3 NOT C2H3CLO2
E CELLULOSE, SULFOACETATE/CN
L5 3 S E4-E6
L6 3 S L4,L5
E ACETIC ACID/CN
L7 1 S E3
E SULFURIC ACID/CN
L8 1 S E3
E ACETIC ANHYDRIDE/CN
L9 1 S E3
E ANHYDROGLUCOSE/CN
E GLUCOSE, ANHYDRO/CN
E ANHYDROGLUCOSE
L10 2 S E3
L11 1 S L10 NOT C9H18O6
L12 117 S C6H10O5/MF AND 2/NR
L13 41 S 197.88.1/RID AND L12
L14 11 S L13 AND ?GLUCO?/CNS
L15 4 S L14 NOT ((D OR T)/ELS OR LABELED OR 13C#)
L16 4 S L11,L15
E SODIUM HYDROXIDE/CN
L17 1 S E3

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L18           1 S GLACIAL ACETIC ACID/CN
L19           1 S L7,L18

     FILE 'HCAPLUS' ENTERED AT 12:39:58 ON 07 DEC 2002
L20           3 S L6

     FILE 'REGISTRY' ENTERED AT 12:41:11 ON 07 DEC 2002
L21           1 S 9004-35-7
L22           1 S 9032-44-4
L23           9 S 9004-34-6/CRN AND 64-19-7/CRN AND 7664-93-9/CRN
L24           6 S L23 NOT (BUTANOATE OR PROPANOATE OR NITRATE)

     FILE 'HCAPLUS' ENTERED AT 12:43:34 ON 07 DEC 2002
L25          47 S L22 OR L24 OR L6
L26          15 S CELLULOSE()(SULFOACETATE OR SULPHOACETATE)
L27          30 S CELLULOSE(L)(SULFOACETATE OR SULPHOACETATE)
L28          15 S L27 NOT L26
                SEL DN AN 14 7
L29           2 S E1-E6 AND L28
L30           6 S L25 AND L26-L29
L31        1528 S CELLULOSE (L) ACETATE (L) (SULFATE OR SULPHATE)
L32         648 S CELLULOSE (S) ACETATE (S) (SULFATE OR SULPHATE)
L33         230 S CELLULOSE (5A) ACETATE (5A) (SULFATE OR SULPHATE)
L34         133 S CELLULOSE (2A) ACETATE (2A) (SULFATE OR SULPHATE)
L35          41 S L25 AND L31-L34
L36          49 S L25,L29,L30,L35
L37       59990 S L1
L38      297553 S CELLULOSE?
L39      301708 S L37,L38
L40      236105 S CELLULOS?/SC,SX,CW
L41      445224 S L37-L40
L42        3333 S L41 AND (L19 OR ACETIC ACID (L)GLACIAL)
L43        4954 S L41 AND ACETIC ACID
L44       53985 S L41 AND ACETATE
L45       57769 S L42-L44
L46        2642 S L45 AND (L8 OR H2SO4 OR (SULFURIC OR SULPHURIC)()ACID)
L47         101 S L46 AND (L9 OR ACETIC()(ANHYDRIDE OR OXIDE) OR ACETYL()(ACETA
L48           0 S L47 AND L16
L49           1 S L47 AND (ANHYDROGLUCOSE OR ANHYDRO()(GLUCOSE OR GLUCOPYRANOSE
L50         141 S L36,L34
L51           4 S L50 AND (L9 OR ACETIC()(ANHYDRIDE OR OXIDE) OR ACETYL()(ACETA
L52           4 S L50 AND (L16 OR ANHYDROGLUCOSE OR ANHYDRO()(GLUCOSE OR GLUCOP
L53           8 S L51,L52
L54           2 S L53 AND L42
L55           3 S L53 AND L43
L56           4 S L53 AND (L8 OR H2SO4 OR (SULFURIC OR SULPHURIC)()ACID)
L57           5 S L54-L56
                E CHAUVELON G/AU
L58           5 S E3,E4
                E SAULNIER L/AU
L59          59 S E3,E6,E7
                E BULEON A/AU
L60         106 S E3,E4
                E THIBAULT J/AU
L61         257 S E3,E7
L62          90 S E19,E20
L63           2 S L58-L62 AND L50
L64           4 S L57 NOT NONAQUEOUS/TI
L65           5 S L63,L64
L66           6 S L29,L65
                SEL DN AN L20 1
L67           1 S E1-E3 AND L20
L68           7 S L66,L67
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L69          31 S (ACOH OR AC2O) AND L50
L70          14 S L60 AND (PREP OR IMF OR IMF OR PNU OR SPN)/RL
                SEL DN AN 4
L71           1 S L70 AND E4-E6
L72           7 S L68,L71
L73           1 S L6/P
L74          11 S L24/P
L75           9 S L22/P
L76          14 S L72-L75
L77          14 S L76 AND L20,L25-L76
L78           6 S L77 AND (ACETIC ACID OR ACOH)
L79           7 S L77 AND (ACETIC ANHYDRIDE OR AC2O)
L80           0 S L77 AND (ACETIC OXIDE OR ETHANOIC ANHYDRIDE OR ACETYL()(ACETA
L81           2 S L77 AND L19,L9
L82           9 S L77 AND (L8 OR H2SO4 OR SO4#  OR (SULFURIC OR SULPHURIC)()ACI
L83           1 S L77 AND (L16 OR ANHYDROGLUCOSE OR ANHYDROGLUCOPYRANOSE OR ANH
L84           2 S L77 AND (L17 OR NAOH OR (NA OR SODIUM)()HYDROXIDE)
L85           0 S L77 AND (KOH OR (K OR POTASSIUM)()HYDROXIDE)
L86          11 S L78-L85
L87           3 S L77 NOT L86
L88          14 S L86,L87
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 13:11:30 ON 07 DEC 2002
L89          11 S E7-E17
L90           9 S L1,L19,L8,L9,L16,L17
L91           5 S L90 NOT L89

     FILE 'REGISTRY' ENTERED AT 13:12:26 ON 07 DEC 2002
L92           2 S L6,L22,L24 NOT L89-L91
                SEL RN L89 1-7
L93           7 S E18-E24
L94           9 S L92,L93

     FILE 'HCAPLUS' ENTERED AT 13:15:16 ON 07 DEC 2002
L95          47 S L94
L96          35 S L95 NOT L88
                SEL DN AN 7 34
L97           2 S L96 AND E25-E30
L98          16 S L88,L97 AND L20,L25-L88,L95-L97
L99           9 S L98 AND (H2SO4# OR SO4 OR ACOH OR AC2O)
L100         16 S L98,L99

     FILE 'HCAPLUS' ENTERED AT 13:19:03 ON 07 DEC 2002

     FILE 'WPIX' ENTERED AT 13:19:35 ON 07 DEC 2002
                E WO2000-FR205/AP,PRN
L101          1 S E3
                E C08B007/IC,ICM,ICS
L102         55 S E3-E5
                E C08B005-14/IC,ICM,ICS
L103         79 S E3-E5
                E C08B003-06/IC,ICM,ICS
L104        275 S E3-E5
L105          3 S L103 AND L104
L106          6 S L102 AND L103,L104
L107          8 S L105,L106
                SEL DN AN 2 3
L108          2 S L107 AND E1-E4
L109        121 S L102,L103 NOT L105-L108
L110         59 S L109 AND (SULFAT? OR SULPHAT?)/TI
L111         46 S L110 AND CELLULO?/TI
L112         13 S L110 NOT L111
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                SEL DN AN 11
L113          1 S L112 AND E5
L114          1 S L111 AND (?ANHYDROGLUCO? OR ?ANHYDRO GLUCO?)
L115          5 S L102,L103 AND (?ANHYDROGLUCO? OR ?ANHYDRO GLUCO?)
                SEL DN AN 1
L116          1 S E6-E7
L117          7 S L102,L103 AND (ACETIC  OR ACETYL)()(ANHYDRIDE OR OXIDE OR ACE
L118          1 S L102,L103 AND (AC2O OR ETHANOIC ANHYDRIDE)
                SEL DN AN 1 5  L117
L119          2 S E8-E11
L120          3 S L101,L113,L116,L119
L121          3 S L120 AND L101-L120

     FILE 'WPIX' ENTERED AT 13:37:06 ON 07 DEC 2002
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